



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/933,916	08/21/2001	Yinyan Huang	P-1049	7748

7590

06/17/2003

LYNCH, COX, GILMAN & MAHAN, P.S.G.
Suite 2200
400 West Market St.
Louisville, KY 40202

EXAMINER

COOKE, COLLEEN P

ART UNIT

PAPER NUMBER

1725

3

DATE MAILED: 06/17/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/933,916

Applicant(s)

HUANG ET AL.

Examiner

Colleen P Cooke

Art Unit

1725

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 June 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2. 6) ☐ Other:

Art Unit: 1725

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-7 and 9-19 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Kawabata et al. (JP01135540 A).

Regarding claims 1, 2, 5, 9, 10, 11, and 14-17, Kawabata et al. teaches a washcoating process including preparing a monolithic structure (page 3 of provided translation, lines 27-28), preparing a washcoat composition of zeolite and a dual sol binder (page 3, lines 11-13), coating the monolith with the washcoat and drying the coated structure (page 3, lines 14-16). The catalyst is to be used for purifying particularly vehicle exhaust to remove NO_x (page 2, lines 9-11 and page 7, first two paragraphs). Kawabata et al. does not teach adding any additional additives to the solution to enhance the adhesion of the washcoat to the monolith. Kawabata et al. does not explicitly teach a ratio of silica sol to alumina sol for the dual sol binder. Instead, Kawabata et al. teaches that the ratio of silica to alumina sol in the binder is related to the ratio of silica to alumina in the zeolite to be used as the catalytic material, preferably that the silica to alumina ratio of the binder is one-third to three times that of the zeolite (page 3, lines 21-24), which would appear to encompass the ratios claimed.

Regarding claims 3 and 4, Kawabata et al. teaches that the pH is ideally 3-6 (page 2, lines 19-20).

Art Unit: 1725

Regarding claims 6, 12, and 18, Kawabata et al. teaches that the zeolite is metal ion exchanged (see page 3, lines 15-16 and page 4, lines 4-5).

Regarding claims 7, 13, and 19, Kawabata et al. teaches that the zeolite may be copper exchanged (page 3, line 33).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 8 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawabata et al. (JP01135540 A), in view of Becue et al. (6551564).

Kawabata et al. teaches the washcoating process and composition as described with respect to claims 1 and 16 above. Kawabata et al. teaches in one specific example that the zeolite used is copper exchanged and had a Si/Al ratio of 40, but never specifies that it is Cu-ZSM5.

Becue et al. teaches that Cu-ZSM5 is a known catalyst for use in reducing NO_x (Column 1, lines 55, 62-63)

Kawabata et al. and Becue et al. are analogous art because they are from the same field of endeavor, which is exhaust gas purification. It would have been obvious to modify process and composition of Kawabata et al. by using specifically a Cu-ZSM5 zeolite because it is functionally equivalent to the zeolite described by Kawabata et al. and is encompassed by the teachings of Kawabata et al.


Conclusion

Any inquiry concerning this or earlier communications from the examiner should be directed to Colleen Cooke, whose telephone number is 703-305-1136. She can normally be reached Monday-Thursday from 7:15-5:45pm.

If attempts to reach the examiner by telephone are unsuccessful, her supervisor, Thomas Dunn, can be reached at 703-308-3318. The official fax number for the organization where this application or proceeding is assigned is 703-305-6078. The unofficial fax number for this examiner is 703-746-3048.

Any inquiry of a general nature relating to the status of this application or proceeding should be directed to the receptionist, whose telephone number is 703-308-0661.

CPC 6/9/2003


M. ALEXANDRA ELVE
PRIMARY EXAMINER